

Figure 1

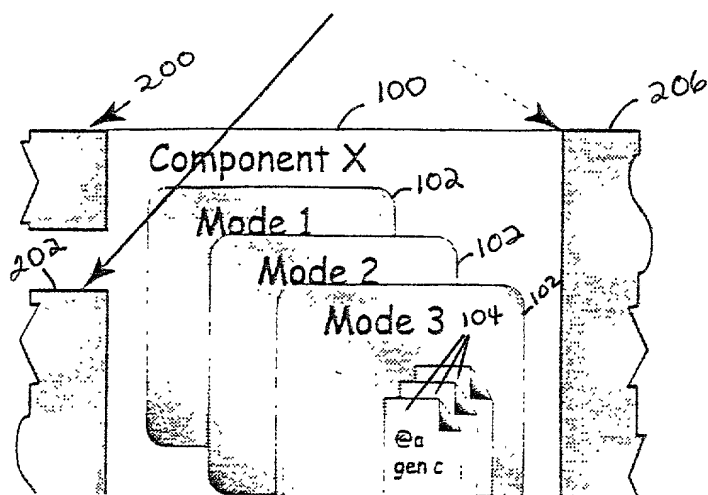


Figure 2

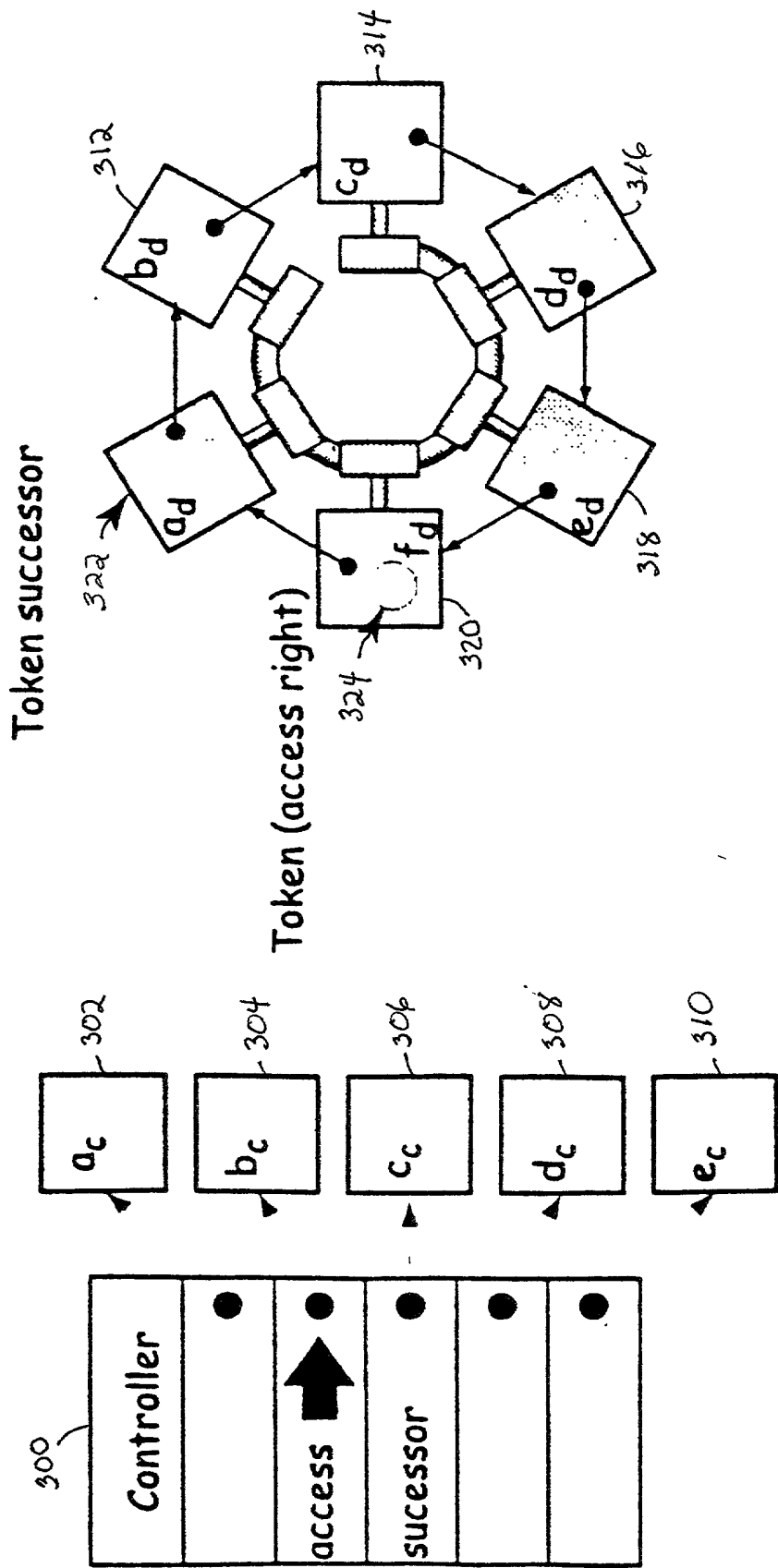


Figure 3A

Figure 3B

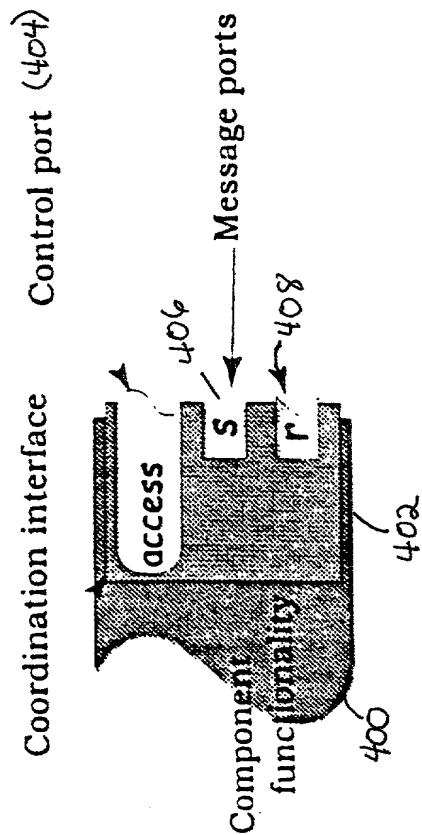


Figure 4A

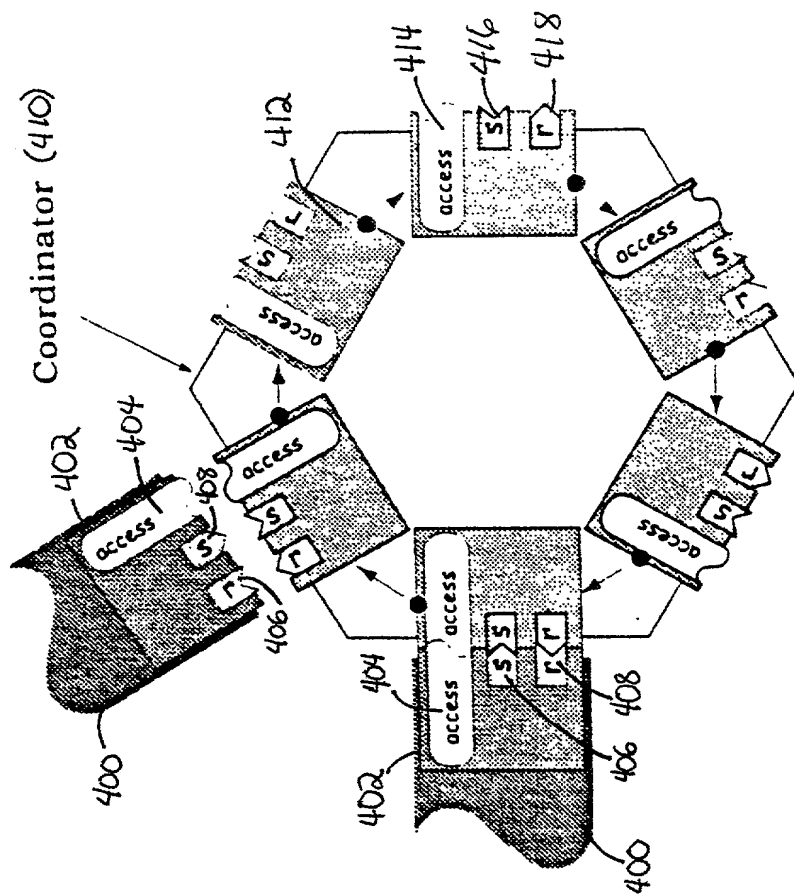


Figure 4B

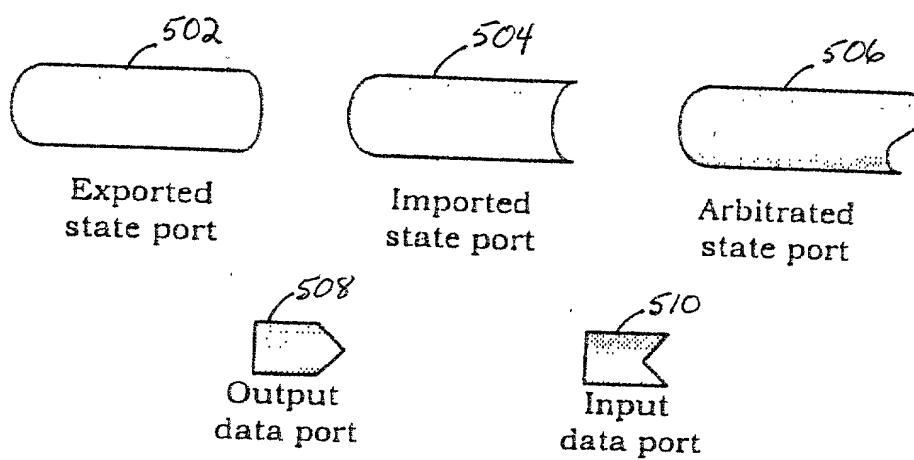


Figure 5

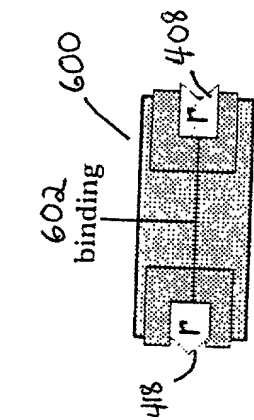


Figure 6A

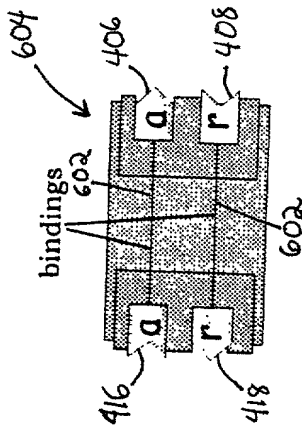


Figure 6B

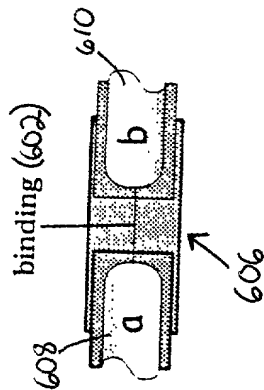


Figure 6C

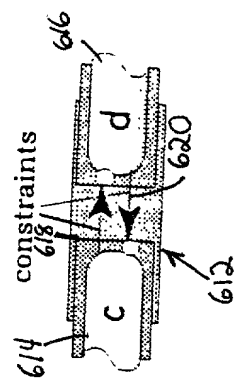


Figure 6D

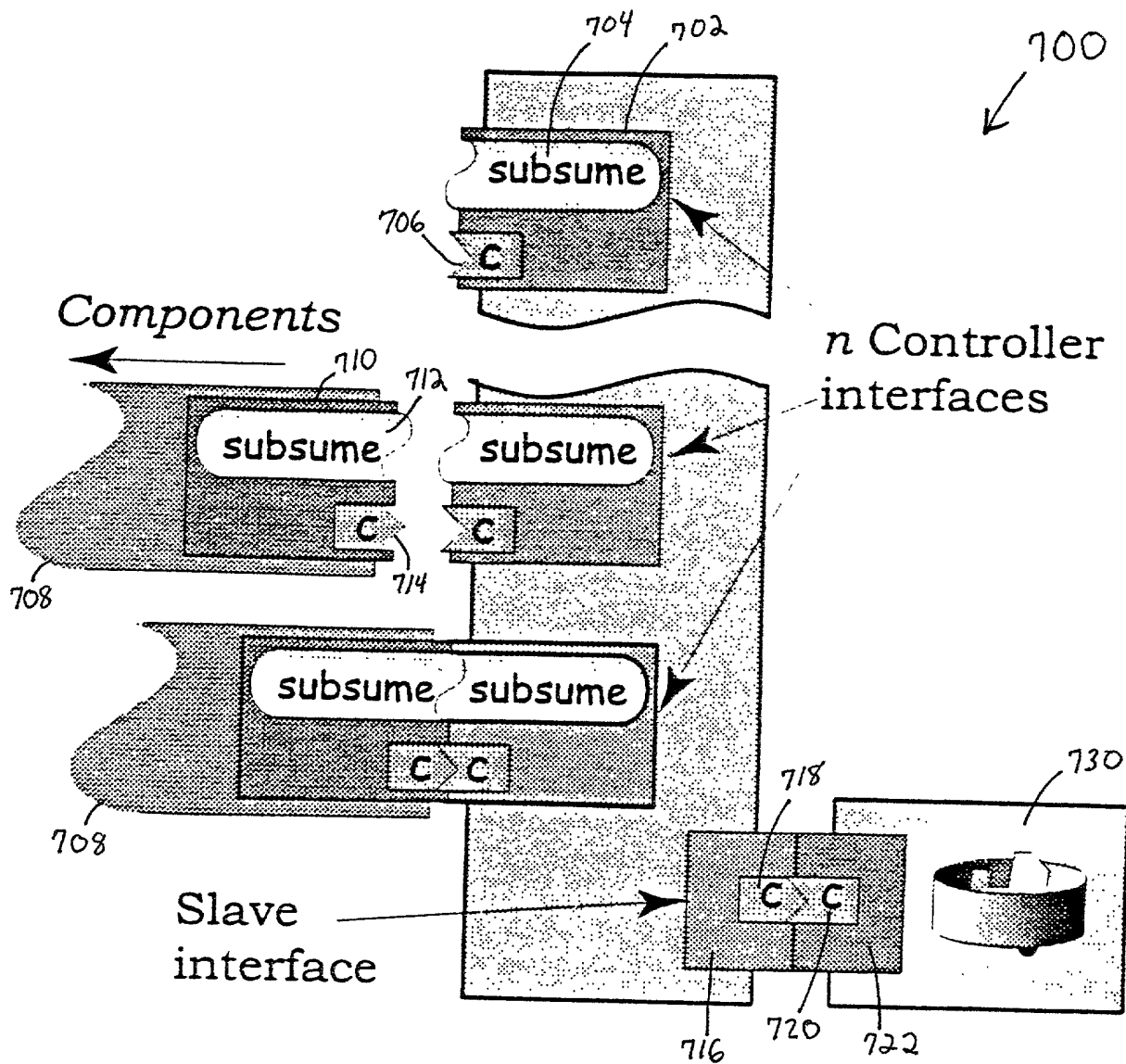


Figure 7

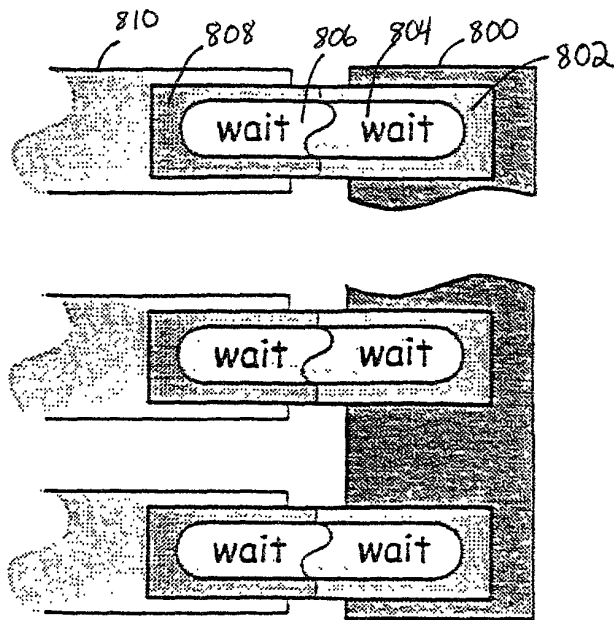


Figure 8



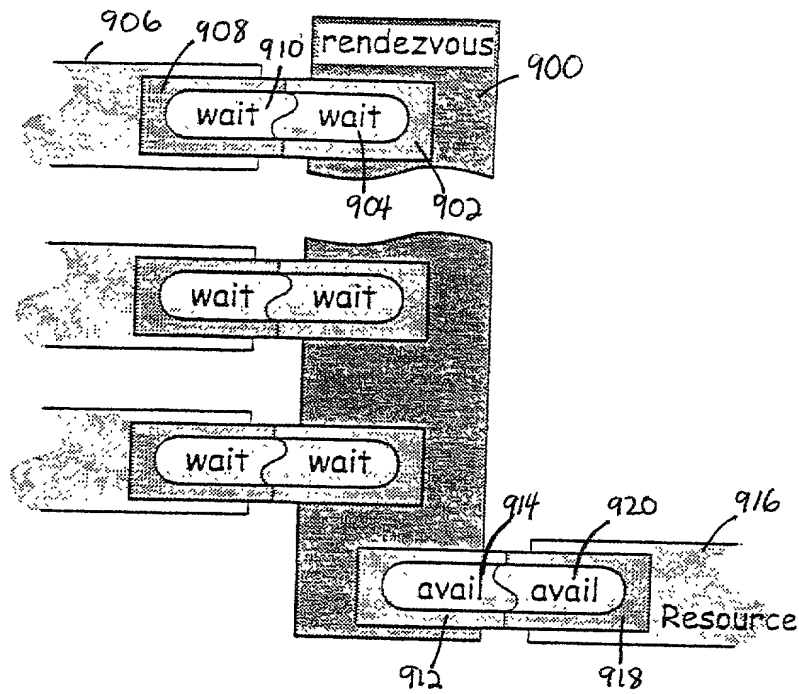


Figure 9

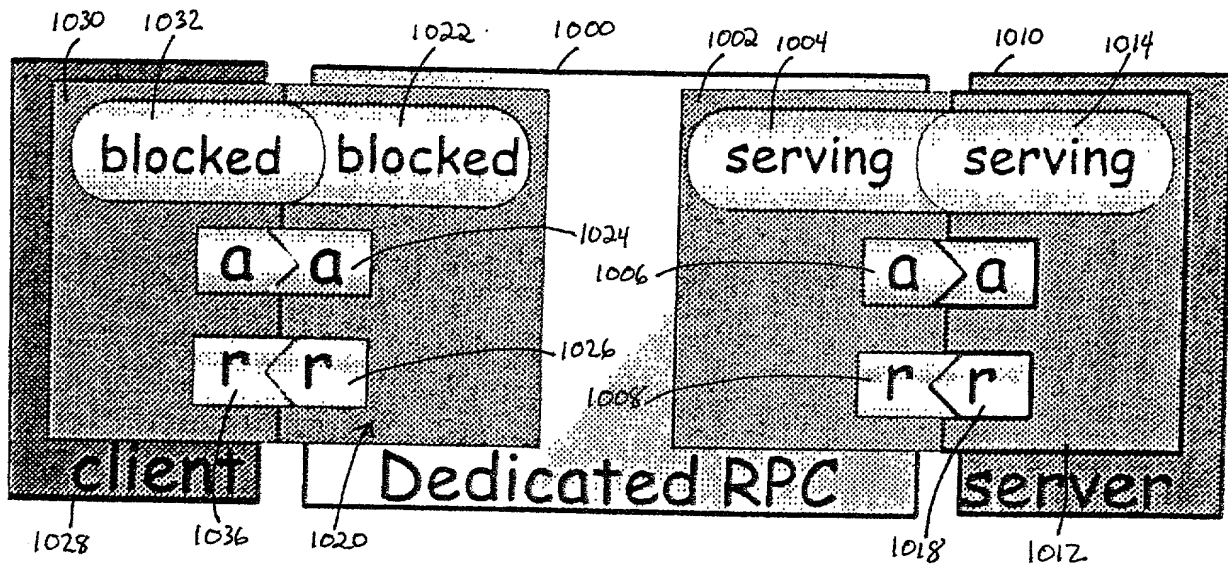


Figure 10

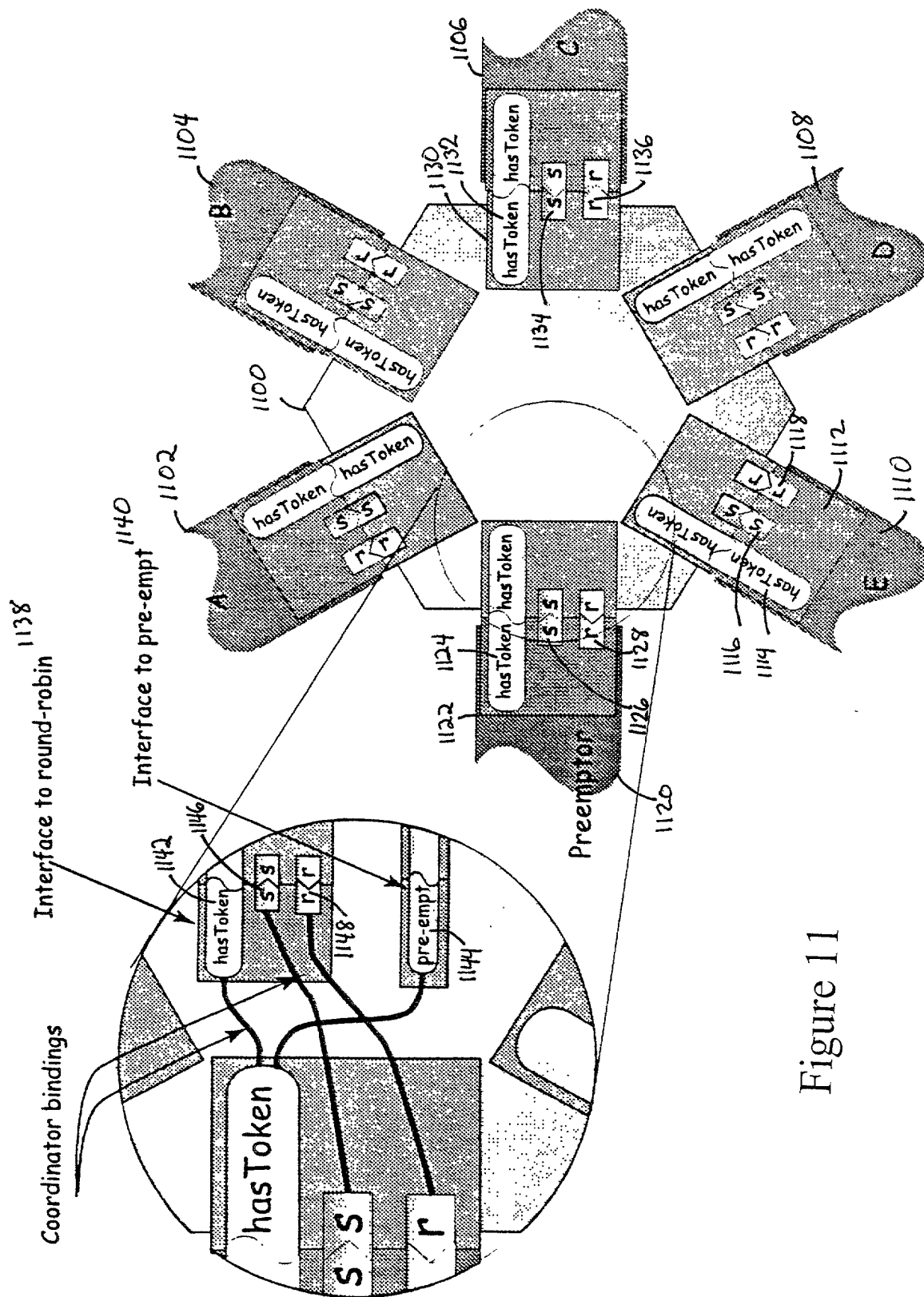


Figure 11

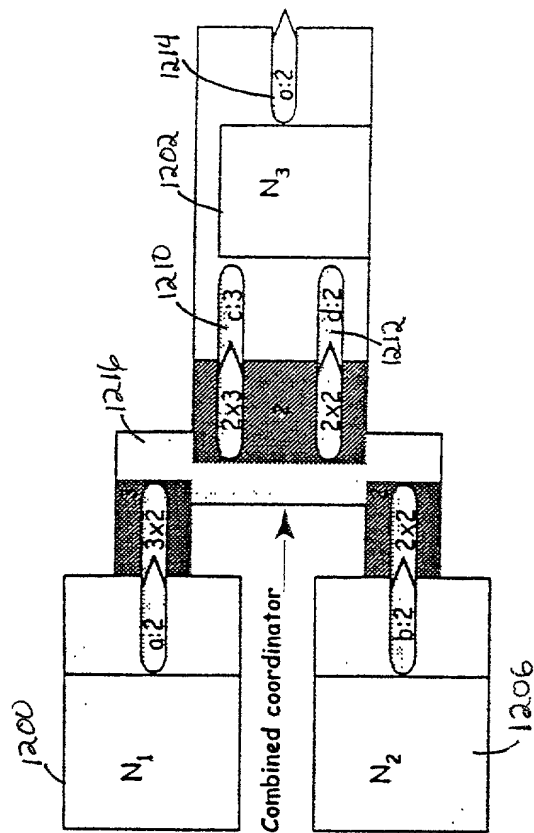


Figure 12A

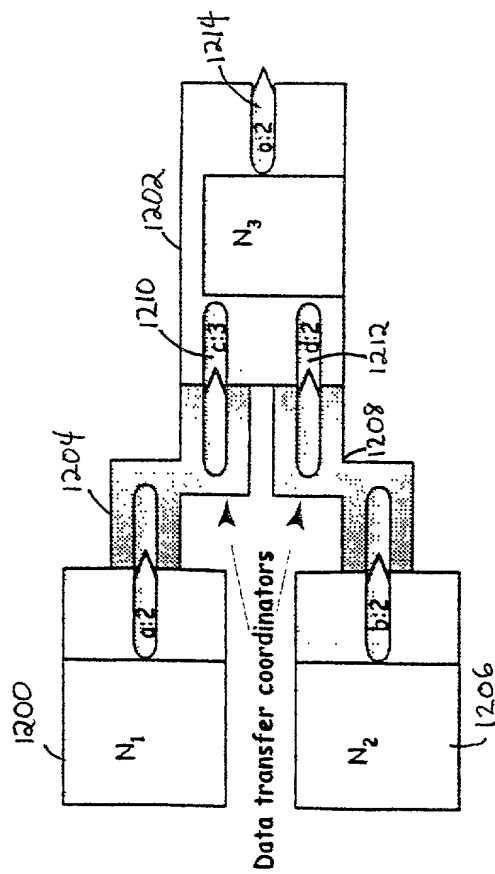


Figure 12B

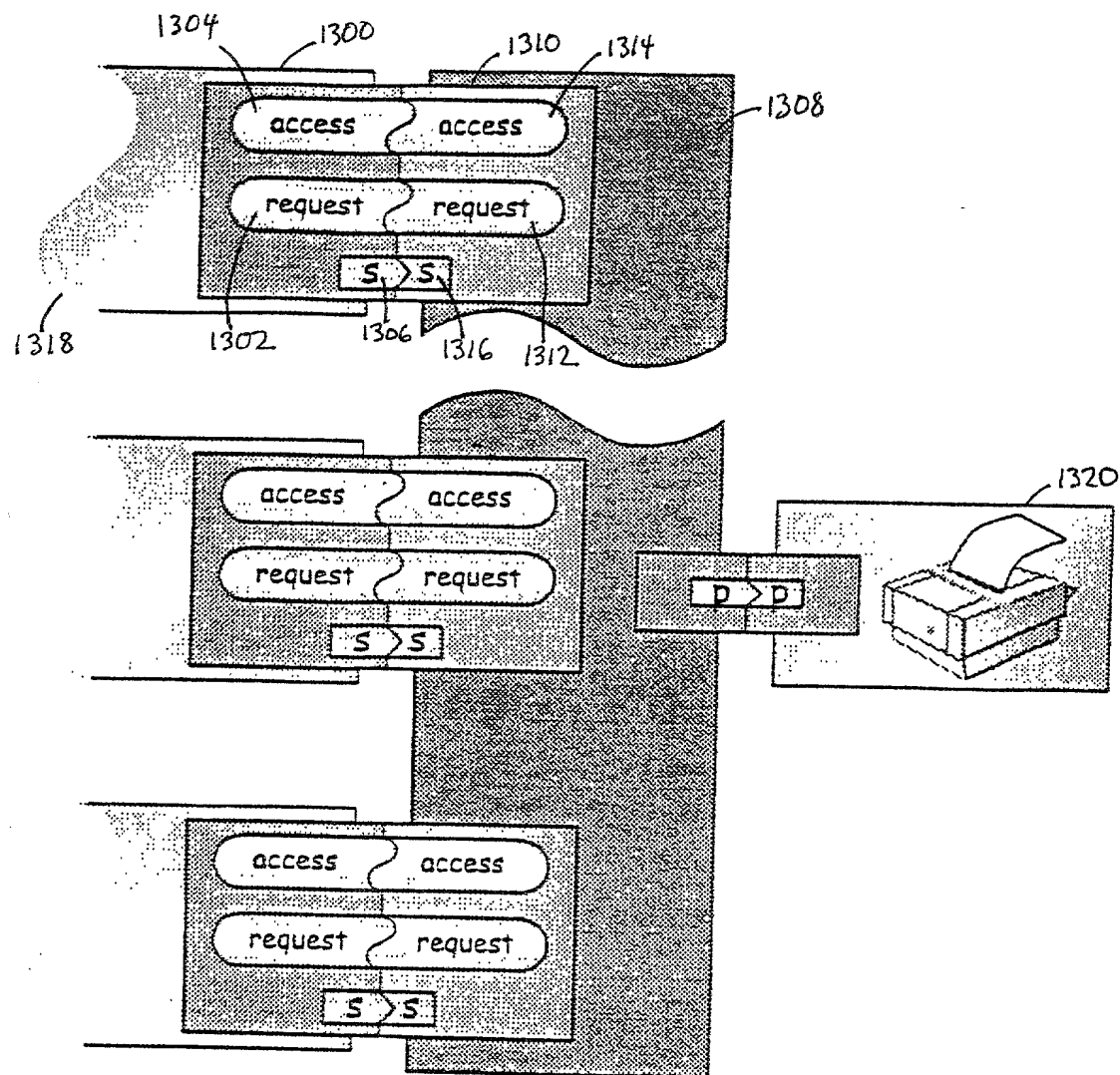


Figure 13

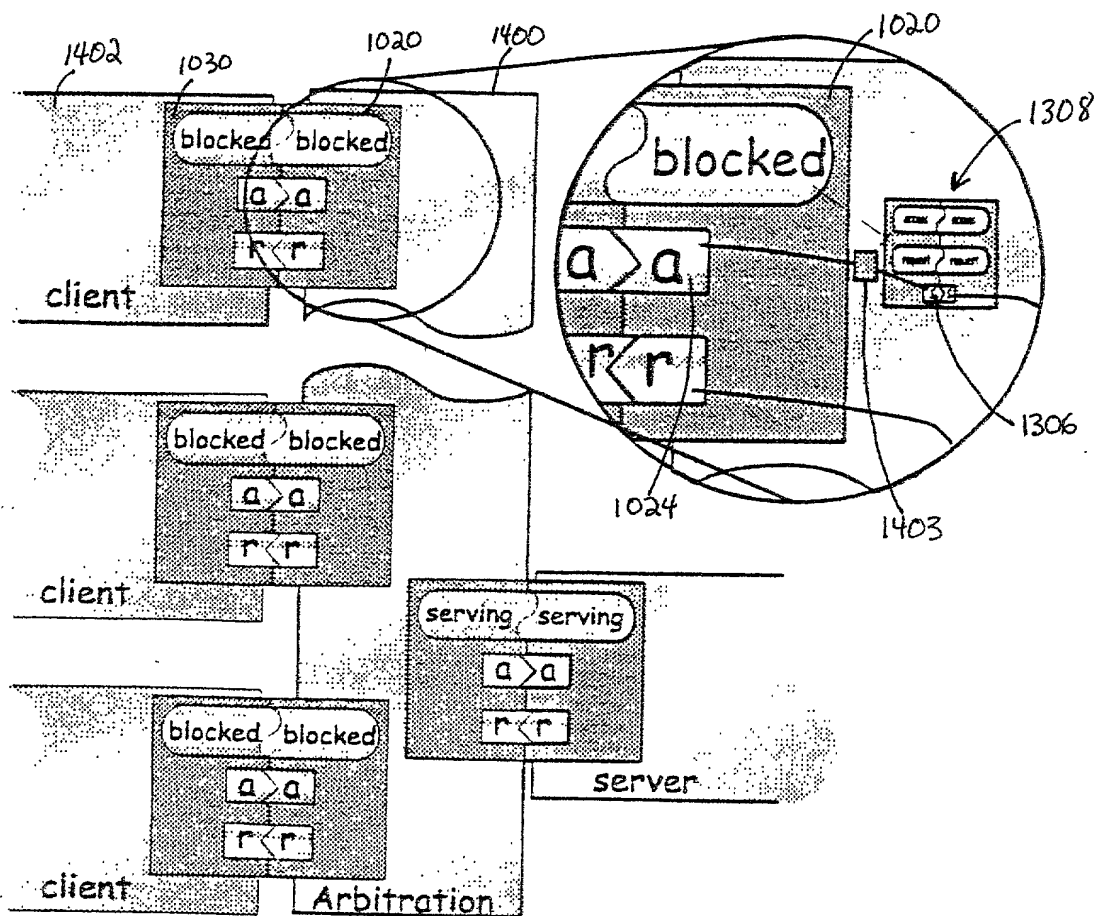


Figure 14

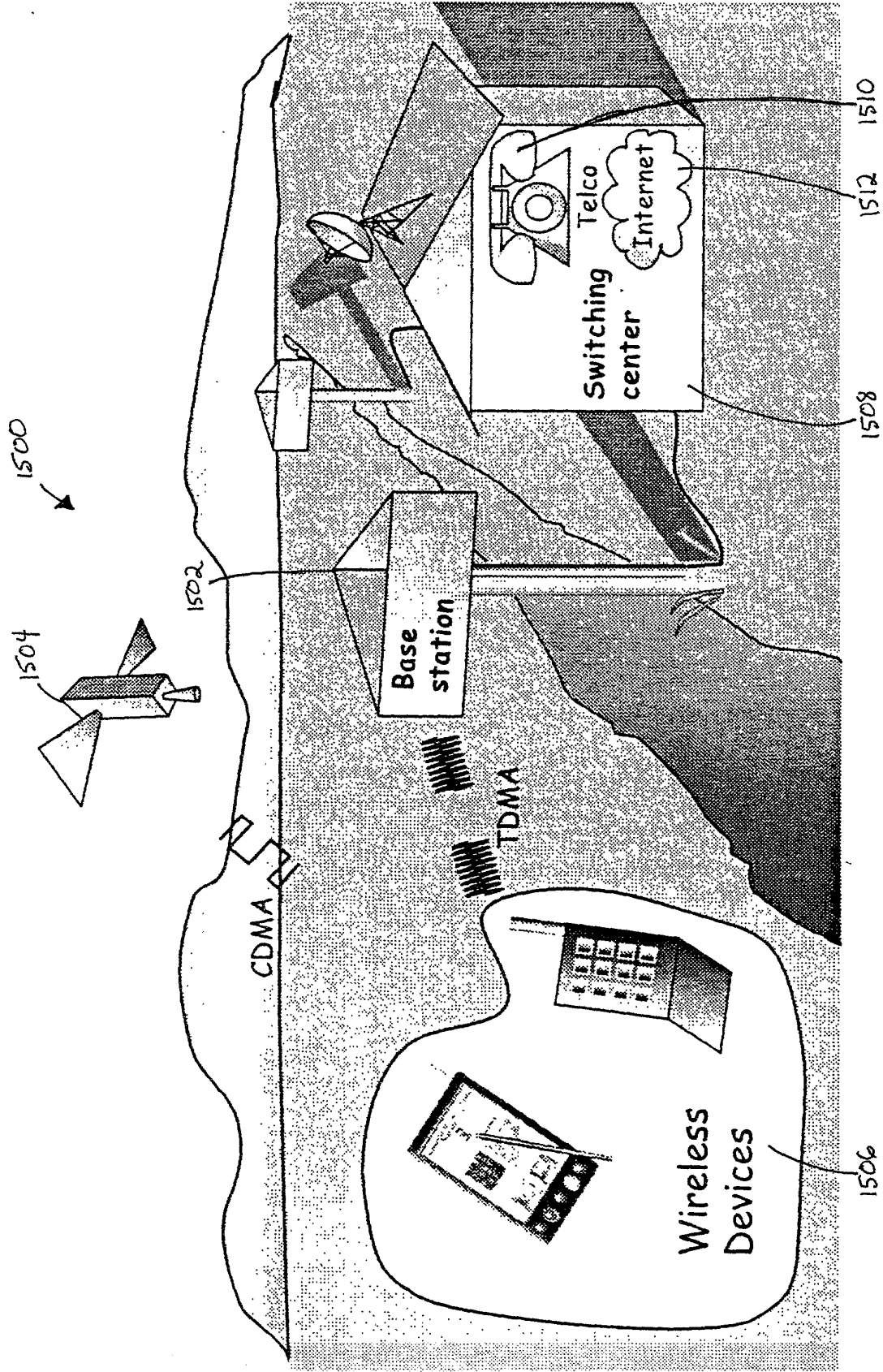


Figure 15

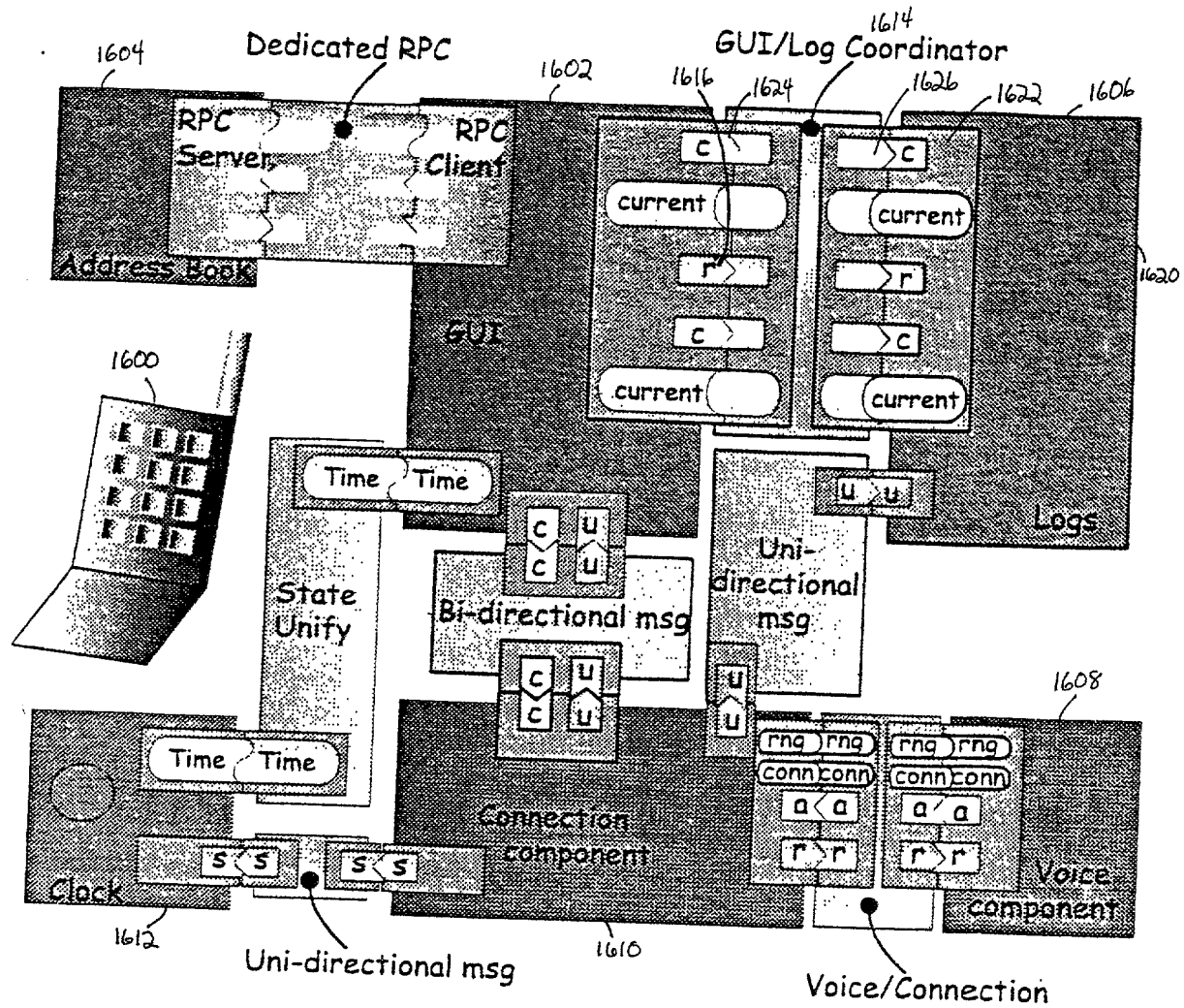


Figure 16



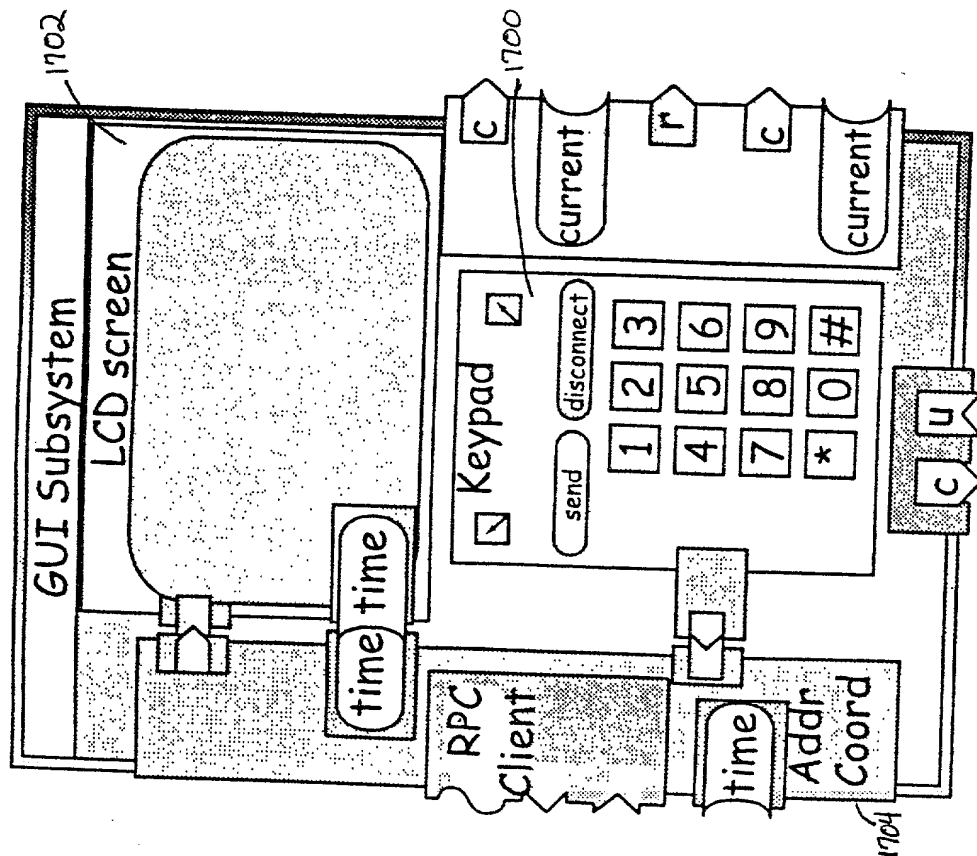


Figure 17A

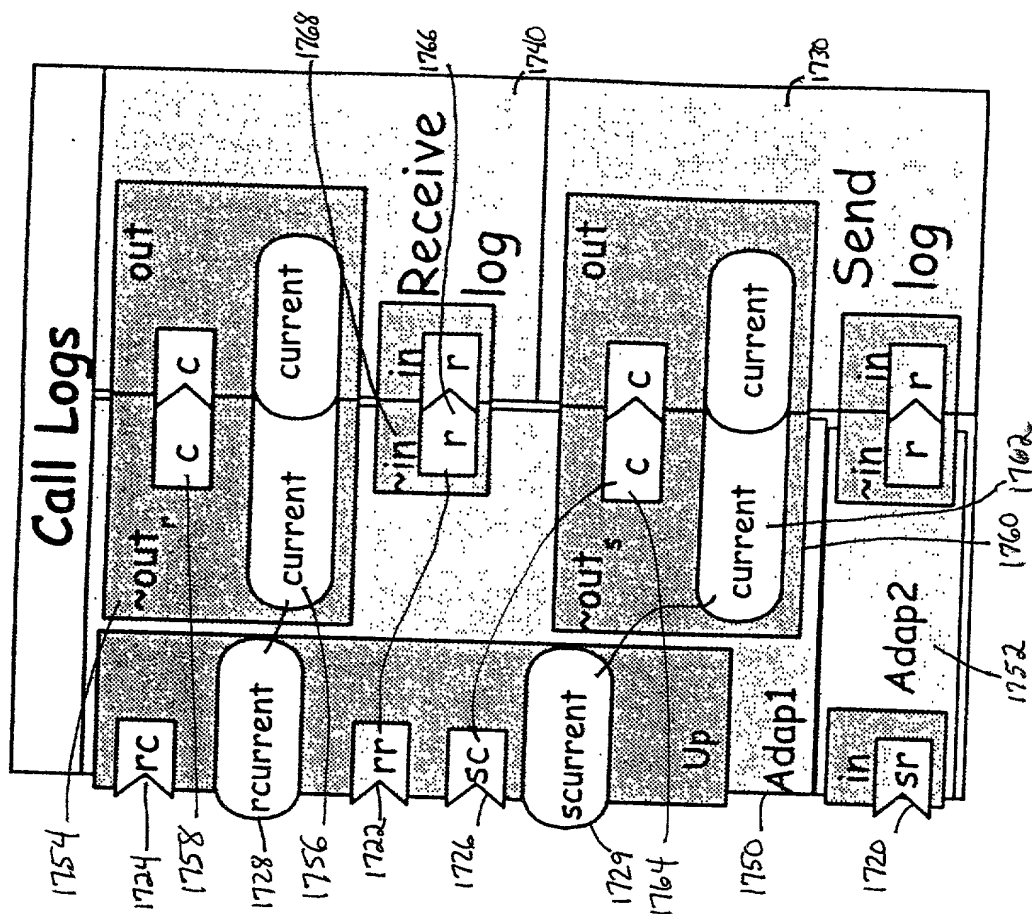


Figure 17B

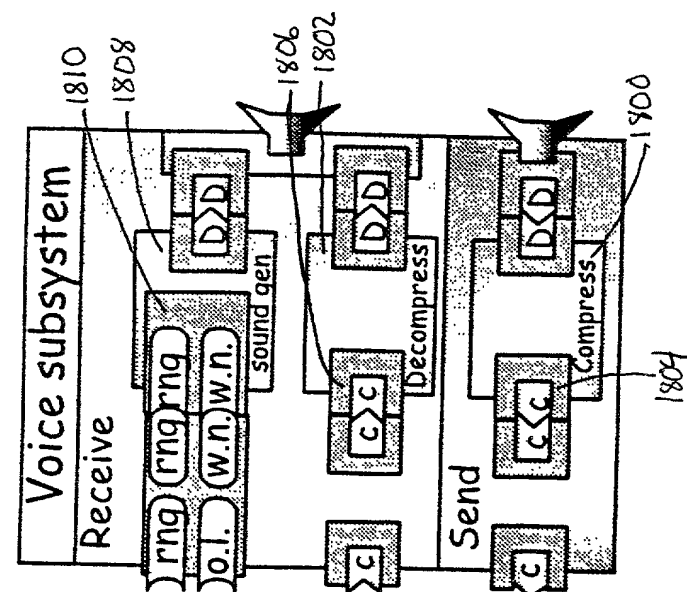


Figure 18A

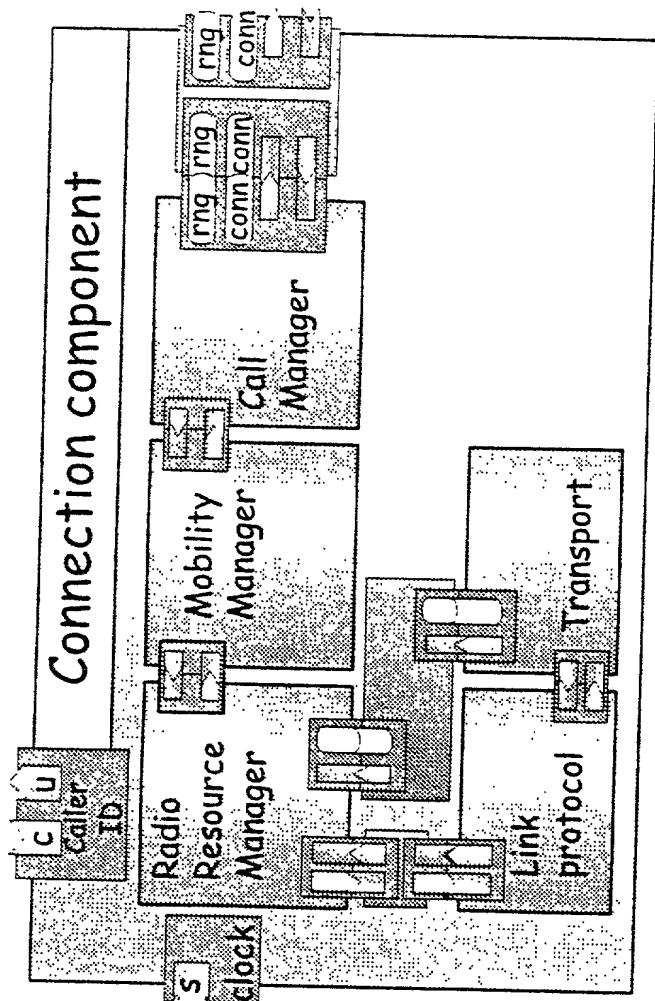


Figure 18B

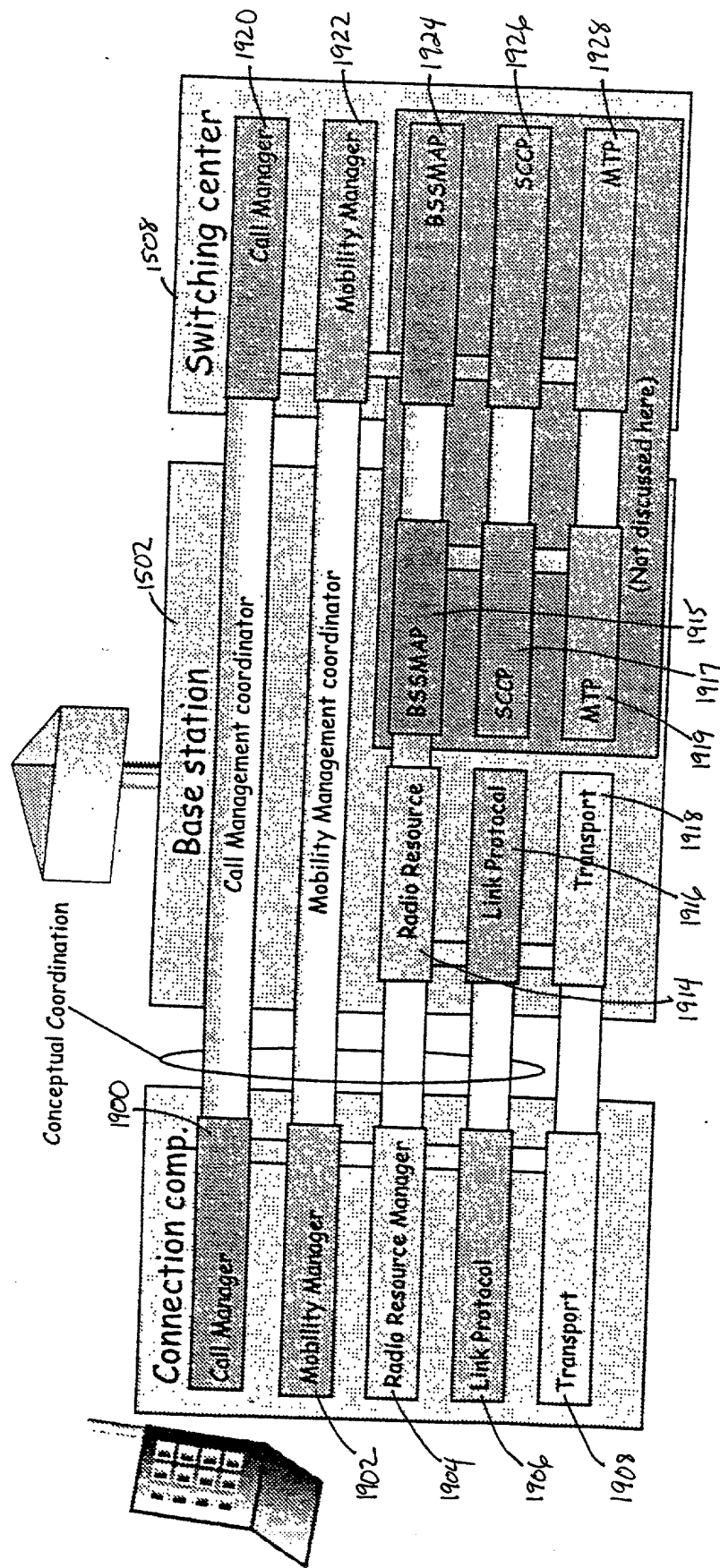


Figure 19

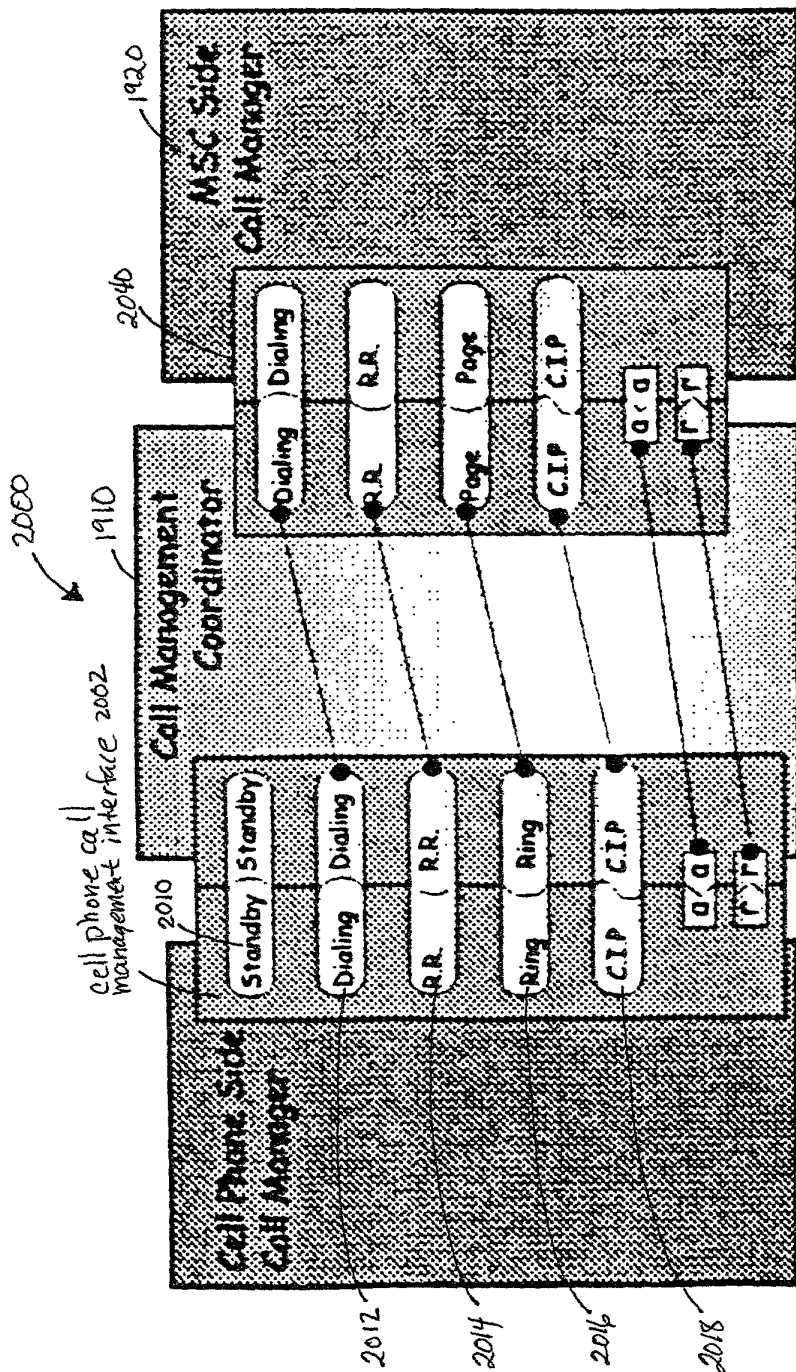


Figure 20

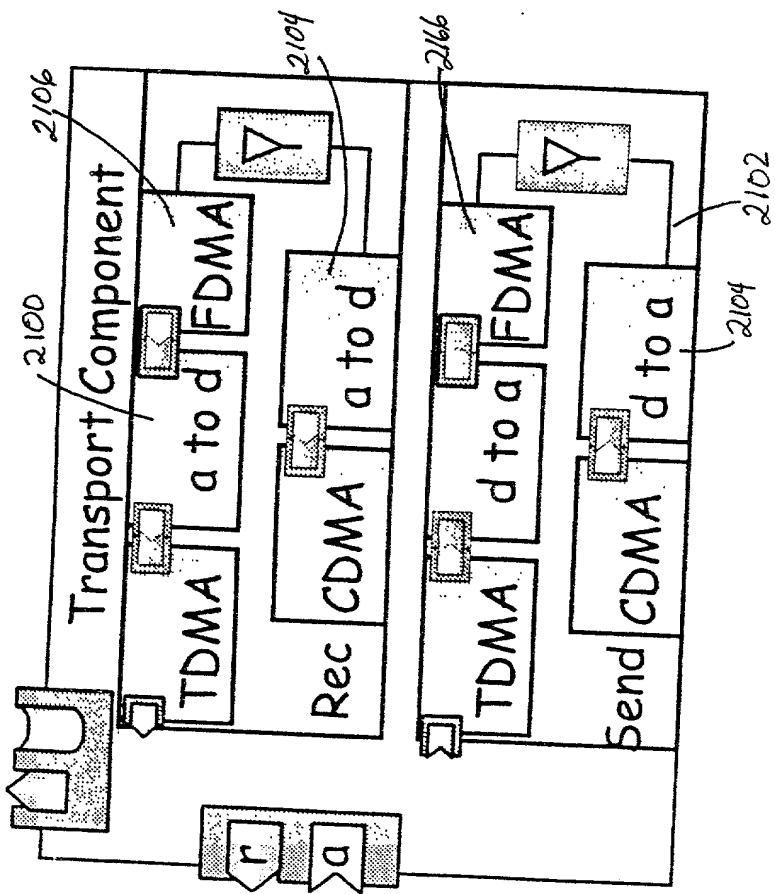


Figure 21A

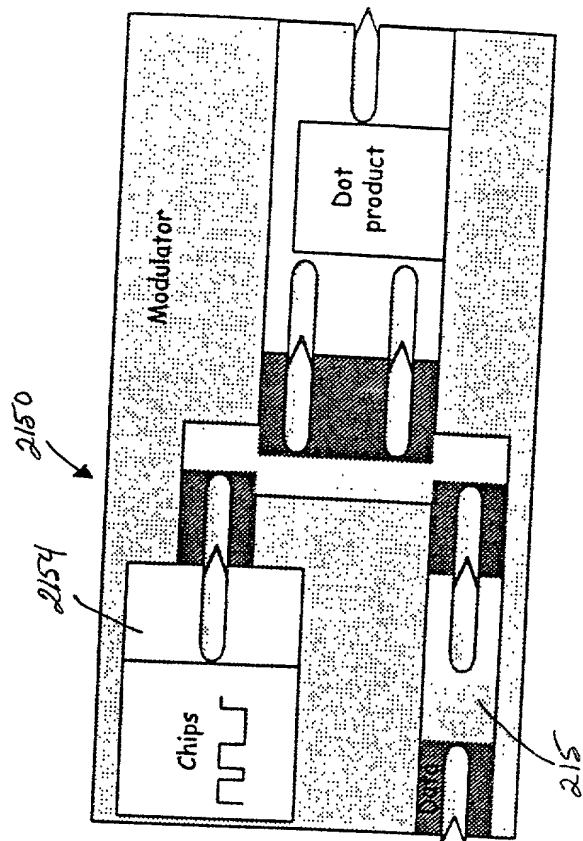


Figure 21B

The diagram illustrates two multiple access techniques: TDMA and CDMA.

**TDMA (Time Division Multiple Access):**

- Signals:** Four cell phones (1, 2, 3, 4) transmit signals over time. Each signal is a sequence of pulses, where the width of each pulse represents the time slot for that phone.
- Frame Structure:** The signals are organized into frames. Frame<sub>0</sub> contains time slots  $t_0, t_1, t_2, t_3$  for cell phone 1, 2, 3, and 4 respectively. Frame<sub>1</sub> starts with cell phone 1's signal, followed by an ellipsis, indicating a repeating pattern.

**CDMA (Code Division Multiple Access):**

- Chips:** Each cell phone has a unique chip sequence (a sequence of pulses and gaps).
- Signal:** The signal for each phone is the chip sequence multiplied by the data signal (represented by a step function).
- Result:** The combined signal is the sum of the individual signals. The diagram shows the result for each phone's signal, which is a complex waveform resulting from the combination of the chip sequence and the data signal.

Figure 22

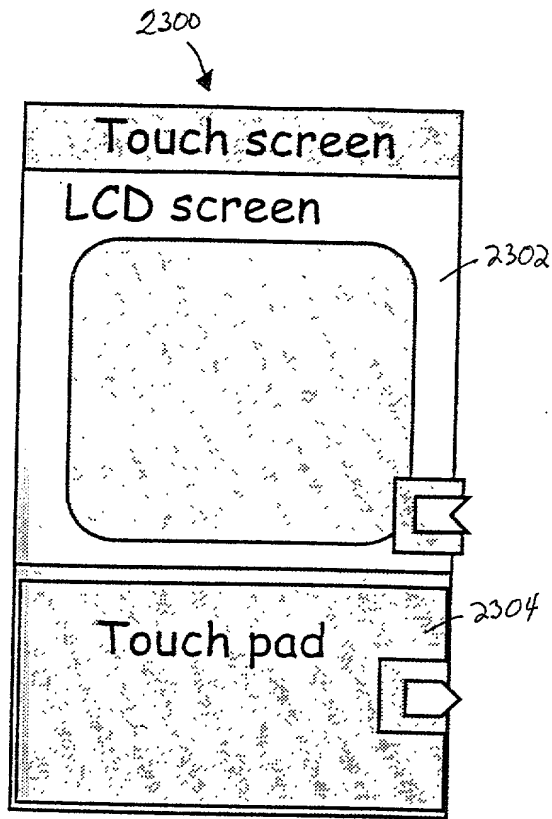


Figure 23A

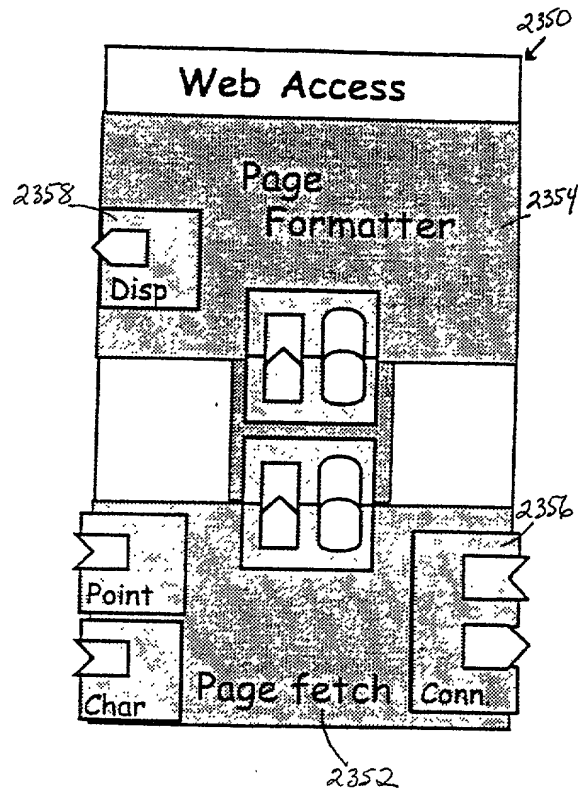


Figure 23B

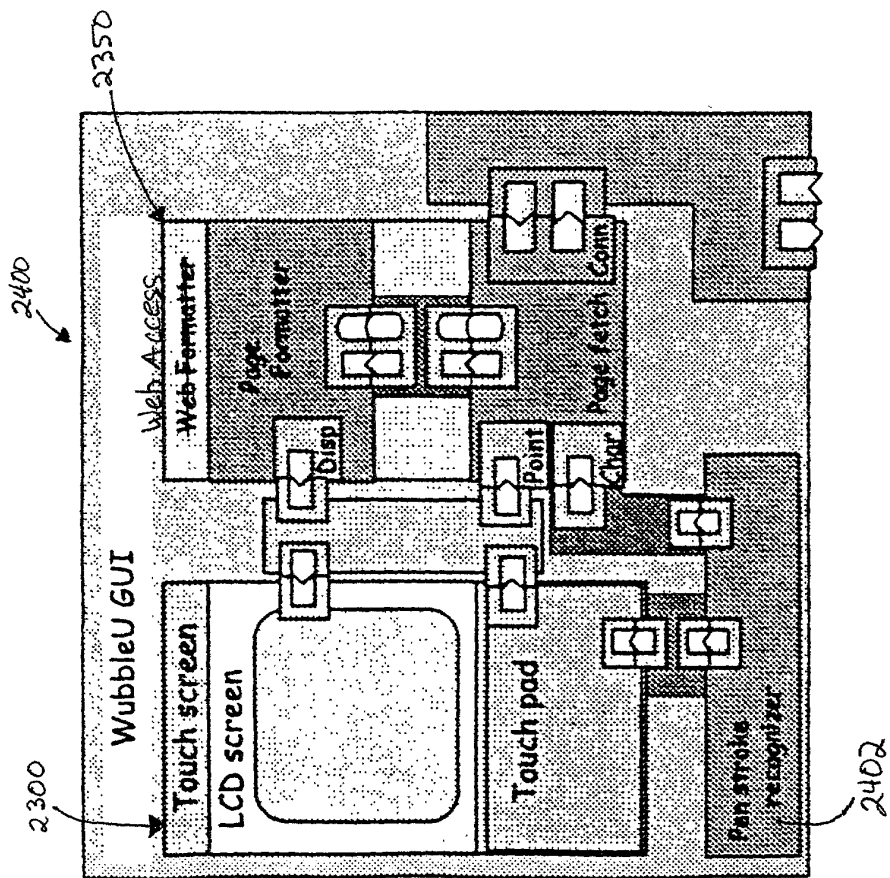


Figure 24A

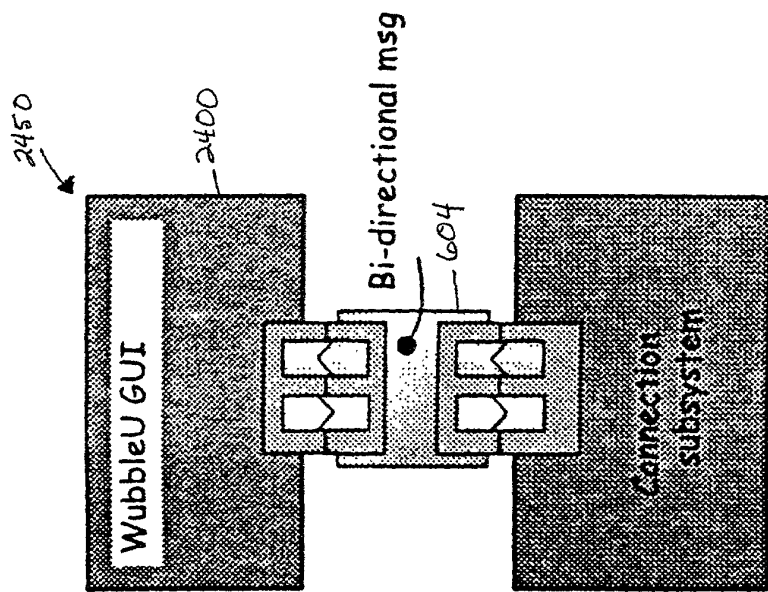


Figure 24B